

METHOD FOR PROVIDING SEASONINGS FOR BOX LUNCHES,  
AND STORAGE MEDIUM AND RESIN FOOD CONTAINER  
USED IN THE METHOD

BACKGROUND OF THE INVENTION

1. Field of the Invention

[0001] The present invention relates to a method for providing seasonings for box lunches and a storage medium and a resin food container used to carry out this method.

2. Description of Related Art

[0002] Conventionally, a resin lunch box has been composed of a body (plate) and a lid. Seasonings and sauces, such as soy sauce, Worcestershire sauce, mayonnaise, ketchup, etc., have been dispensed to small bags, and these small bags have been put in the body together with food.

[0003] In preparing a large number of box lunches, conventionally, such small bags of seasonings have been put in each of the lunch boxes by hand, which has been troublesome. In addition, these small bags are put in the lunch boxes together with food, and it has been likely that a person who opens the bags may stain his/her fingers with oil because oil of the food may have stuck to the bags. Moreover, there have been no other ways than pouring the seasonings and sauces on the food, and if the person wants a saucer, the person has to get one.

[0004] In recent years, various kinds of box lunches are supplied for old people, for people who are on a diet, for sick people such as for

hypertension patients, for liver disease patients, for diabetic patients, for allergic patients, etc. In preparing such special box lunches, it is necessary to put various kinds of seasonings in the respective kinds of lunch boxes differently so that the respective kinds will differ in salt, sugar, oil, calorie, etc. and that each kind will contain the necessary seasonings exactly at proper rates. However, since this process is carried out by hand, it will indispensably occur that such seasonings may be put incorrectly.

## SUMMARY OF THE INVENTION

[0005] A first object of the present invention is to provide a method for providing seasonings for box lunches which can omit the process of putting small bags of seasonings in each lunch box and which is suited for mass production of box lunches.

[0006] A second object of the present invention is to provide a method for providing seasonings for box lunches in which necessary kinds of seasonings are selected from various kinds of seasonings for each lunch box and put in the corresponding lunch box correctly as well as in which the first object is achieved.

[0007] A third object of the present invention is to provide a storage medium which is suited to be used to carry out the method for providing seasonings for box lunches by use of a computer.

[0008] A fourth object of the present invention is to provide a resin food container with seasonings therein which can omit the necessity of putting small bags of seasonings therein and which is suited to be used

for mass production of box lunches.

[0009] A fifth object of the present invention is to provide a resin food container of which lid can be used as a saucer as well as which achieves the fourth object.

[0010] A sixth object of the present invention is to provide a resin food container in which a person can get seasonings without staining his/her fingers with oil or the like.

[0011] In order to attain the objects above, according to the present invention, a method for providing a seasoning for box lunches comprises the steps of: preparing a lunch box which is molded from resin and is composed of a body and a lid; putting a seasoning in at least one recess which is formed in either the body or the lid of the lunch box and which is enclosed by walls of the same height; and sealing the recess by welding a top sealing film on tops of the walls enclosing the recess.

[0012] In the method according to the present invention, a seasoning is put in at least one recess which is formed in either the body or the lid of a lunch box, and it is no longer necessary to dispense a seasoning in a small bag and to put the bag in the lunch box. In addition, by peeling the top sealing film, the seasoning can be taken out easily. The step of putting a seasoning in the recess and the step of sealing the recess by welding a top sealing film can be carried out automatically, and mass production of such lunch boxes with seasonings in recesses is possible.

[0013] In the method according to the present invention, preferably, the seasoning to be put in the recess is selected depending on the kind of the box lunch and the food to be contained in the body. For example, if salad is to be contained in the body, mayonnaise is selected; if pork cutlet

is to be contained in the body, Worcestershire sauce is selected; and if grilled fish is to be contained in the body, soy sauce is selected. The recess is preferably formed on the ceiling of the lid. In this case, after the top sealing film is peeled, the lid can be used as a saucer, which is convenient.

[0014] Further, in the method according to the present invention, a computer may be used. In this case, the kind of a lunch box and the kind of food to be contained in the body are inputted in the computer, and the computer selects and outputs the kind of a seasoning which matches the inputted food. Further, the computer may control a printing device to print the name of the selected seasoning on the top sealing film.

[0015] For different kinds of box lunches, such as lunches for old people, lunches for people who are on a diet and lunches for sick people, salt, sugar, etc. must be dispensed differently from kind to kind. By using a computer to select proper seasonings and to automatically put them in each lunch box correctly, various kinds of box lunches can be produced correctly and sanitarily.

[0016] A storage medium according to the present invention is for the computer which is used in the above-described method. This storage medium is stored with a look-up table which lists kinds of seasonings to be put in the recess in association with the kinds of box lunches and the kinds of food to be contained in the body.

[0017] By use of such a storage medium, a seasoning to be put in the recess can be selected automatically and correctly. Such storage media are supplied to the users in the forms of hard disks, CDROMs, floppy disks, etc., and these storage media are preferably of an erasable type.

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[0018] A resin food container according to the present invention comprises a body and a lid which are molded from resin, and at least one recess is formed in an inside of either the body or the lid. A seasoning is put in the recess, and a top sealing film is thermally welded to cover the recess.

[0019] In the resin food container, since a seasoning is put in the recess, it is no longer necessary to dispense a seasoning in a small bag and put the small bag in the food container. A process of putting a seasoning in the recess and a process of thermally welding the top sealing film can be automated, and thus, mass production of such resin food containers is possible.

[0020] In the resin food container, the recess is preferably formed on the ceiling of the lid. In this case, after the top sealing film is peeled, the lid can be used as a saucer.

[0021] Further, a slit may be formed in the top sealing film at an end portion. By inserting the tip of a chopstick or the tip of a fork in the slit, a person can peel the top sealing film easily without staining his/her fingers.

#### BRIEF DESCRIPTION OF THE DRAWINGS

[0022] These and other objects and features of the present invention will be apparent from the following description with reference to the accompanying drawing, in which:

Fig. 1 is a perspective view which shows a lid of a lunch box according to a first embodiment of the present invention;

Fig. 2 is a sectional view of the lid;

Fig. 3 is a perspective view which shows the lid which has been molded from resin (in a state that no seasonings have not been put in recesses and that a top sealing film has not been covered on the recesses);

Fig. 4 is a block diagram which shows a computer system used to carry out a method for providing seasonings according to the present invention; and

Fig. 5 is a perspective view which shows a lid of a lunch box according to a second embodiment of the present invention.

#### DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0023] Embodiments of a method for providing seasonings for box lunches according to the present invention and a storage medium and a resin food container used in the method are described with reference to the accompanying drawings.

First Embodiment of Lunch Box; See Figs. 1 to 3

[0024] Figs. 1 through 3 show a lid 10 of a lunch box (resin food container) according to the first embodiment of the present invention. The lid 10 has, on the ceiling, three recesses 11a, 11b and 11c and a protrusion 13, and the recesses 11a, 11b and 11c are enclosed by walls. In the recesses 11a, 11b and 11c, proper amounts of seasonings are put, and as the shadowed portion in Fig. 1 shows, a top sealing film 15 is thermally welded on the tops of the walls.

[0025] The lid 10 is made of resin, for example, polypropyrene, polyethylene, polyethylene terephthalate or the like. The top sealing

film 15 is preferably of an easy peel type.

[0026] The seasonings mean salt, Worcestershire sauce, soy sauce, mayonnaise, ketchup, etc. and include flavors, dried seaweed, pickles, dips for noodle, nutritious supplements and other additives.

[0027] There is a hollow portion 14 between the recess 11a and the protrusion 13, and a person can peel the top sealing film 15 easily by putting his/her finger in this hollow portion 14. After the top sealing film 15 is peeled, the lid 10 can be used as a saucer. The lid 10 is large enough to be used as a saucer with seasonings thereon.

[0028] The lid 10 is made of a proper kind of resin, and the recesses 11a, 11b, 11c and the protrusion 13 are formed integrally. The seasonings are put in the recesses 11a, 11b and 11c automatically, and the top sealing film 15 is thermally welded automatically. The numeral 15' in Fig. 1 denotes a long resin film on which words "salt", "Worcestershire sauce", "soy sauce", etc. are printed so as to coincide with the recesses 11a, 11b and 11c respectively. This long resin film 15' is placed over the recesses 11a, 11b, 11c and the protrusion 13, and the film 15' is cut and thermally welded.

[0029] The protrusion 13 is to form a hole through which a finger is inserted and to cut the long resin film 15'.

[0030] Thus, total automatic production of the lid 10 without any handwork, including the process of putting seasonings in the recesses 11a, 11b and 11c, is possible, and mass production of such lids is possible.

[0031] The top sealing film 15 has a slit or a score 16 at an end portion. By inserting the tip of a fork or the tip of a chopstick into the hollow portion 14 through this slit 16, the top sealing film 15 can be peeled easily.

In this way, a person, even an old person, can peel the top sealing film 15 easily without staining his/her fingers.

[0032] Conventionally, soy sauce and Worcestershire sauce have been contained in resin small containers with no labels, and it has been difficult to recognize the kinds of sauces from the appearance. With respect to this lunch box, however, since the names of seasonings are printed on the top sealing film 15, the seasonings are surely recognizable.

[0033] The seasonings to be put in the recesses 11a, 11b and 11c of the lid 10 are selected depending on the kind of food to be contained in the body. For example, if salad is to be contained in the body, mayonnaise is selected; if pork cutlet is to be contained in the body, Worcestershire sauce is selected; and if grilled fish is to be contained in the body, soy sauce is selected.

#### Method of Putting Seasonings in the Recesses; See Fig. 4

[0034] Seasonings may be put in the recesses 11a, 11b and 11c by hand or by use of a seasoning dispenser. In the latter case, by using a computer, this process will be easier. The kinds of food to be contained in the body are inputted into the computer, and the computer selects and outputs the kinds of seasonings which match the inputted kinds of food.

[0035] When using a computer, for example, as Fig. 4 shows, the kinds of box lunches (for example, lunches for old people, lunches for people who are on a diet, lunches for hypertension patients, lunches for liver disease patients, lunches for diabetic patients, lunches for allergic patients, etc.) and the kinds of food to be contained in the body, and the kinds of seasonings to be contained in the recesses 11a, 11b and 11c for each kind of box lunches and for each kind of food are inputted in a look-up table of



a CPU 50.

[0036] The kind of a box lunch and the kind of food can be inputted into the computer through input means such as a keyboard, a touch panel or the like. The CPU 50 outputs the kinds of seasonings which were obtained with reference to the look-up table 51 to the seasoning dispenser 52, and the dispenser 52 puts the designated seasonings to the recesses 11a, 11b and 11c automatically. Simultaneously, the CPU 50 sends the names of the seasonings to be printed on the top sealing film to a printer 53.

[0037] As already mentioned, lunches for old people, lunches for people who are on a diet, lunches for sick people differ in the weights of salt, sugar, etc. from kind to kind, and it is never forgivable to put the seasonings incorrectly. By using such a computer system, various kinds of box lunches can be mass produced correctly and sanitarily for a short time.

[0038] The CPU 50 incorporates a ROM stored with a control program, and a RAM. The look-up table 51 may be stored in either the ROM or the RAM. The control program is stored in a storage medium such as a hard disk of the CPU 50, a CDROM, a floppy disk or the like.

[0039] Further, even if the CPU 50 does not incorporate the look-up table 51, by inputting the kinds of seasonings to be in the recesses 11a, 11b and 11c directly, it is possible to put the seasonings in the recesses 11a, 11b and 11c automatically.

#### Second Embodiment of Lunch Box; See Fig. 5

[0040] Fig. 5 shows a lid 20 of a lunch box (resin food container) according to the second embodiment of the present invention. This lid 20,

like the lid 10, has three recesses 21a, 21b and 21c on the ceiling, and each of the recesses 21a, 21b and 21c are enclosed by walls. On the tops of the walls, as the shadowed portion in Fig. 5 shows, a top sealing film 25 is thermally welded. What is different from the lid 10 is that the protrusion 13 is omitted.

[0041] A resin film 25' is placed over the recesses 21, 21b and 21c and cut and thermally welded. Like the resin film 15', the resin film 25' has names of seasonings printed thereon and has a slit or a score 26. The functions and the effects of the lid 20 are the same as those of the lid 10.

#### Other Embodiments

[0042] The recesses to contain seasonings therein may be formed in the body of the lunch box not in the lid. An end of the top sealing film may be extended to the outside of the lid. The structure and the shape of the lunch box and the structure and the shape of the recesses to contain seasonings therein can be arbitrarily designed.

[0043] Although the present invention has been described in connection with the preferred embodiments above, it is to be noted that various changes and modifications are possible to those who are skilled in the art. Such changes and modifications are to be understood as being within the present invention.